

Study Report:

BREEDING WATERFOWL SURVEY,
Gates of the Arctic National Park and Preserve

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INTRODUCTION

Declines in waterfowl (Anseriformes: Anatidae) numbers throughout North America are a source of major concern among biologists. Dabbling ducks (subfamily Anatinae, tribe Anatini) in particular have suffered major losses in recent years, with mallards (Anas platyrhynchos) and pintails (A. acuta) among those species declining most.

Although Gates of the Arctic National Park and Preserve is not one of Alaska's highly significant waterfowl production areas on a national level, portions of the park/preserve do host locally significant numbers of nesting waterfowl. Increasing recreational use of these areas may prove disruptive to waterfowl breeding success.

The U.S. Fish and Wildlife Service's office of Migratory Bird Management conducts aerial surveys of important waterfowl breeding areas throughout the state. It is not presently cost-effective to do surveys of this kind in Gates of the Arctic National Park and Preserve. However, a simple and relatively inexpensive monitoring program for nesting waterfowl would be useful to park management in its consideration of human-use issues, and would contribute to the regional information base.

One of the objectives of this year's survey was to view a sample of broods of each of the various waterfowl species breeding in the area surveyed and to produce respective estimates of mean brood sizes. An additional objective was to count the total number of waterbirds observed at each lake visited. If the survey is repeated in subsequent years it should be possible to gain some insight concerning the number of birds using the area and trends in reproductive success.

Thanks to Student Conservation Association volunteer Diane Wadiak for cheerfully assisting in this year's survey, despite the generally unfavorable weather and hiking conditions.

STUDY AREA

The study area consisted of the upper Noatak River corridor from Twelvemile Slough to Lake Matcharak (appendix B). This area was selected because it has some of the better waterfowl breeding habitat in Gates of the Arctic National Park and Preserve, and is also an area of relatively concentrated human recreational use.

Recreationists generally access the area by float plane and then float the river in canoes, kayaks, and rafts. Some individuals also hike for various distances away from the river itself.

METHODS

The survey crew consisted of two individuals. We accessed the study area by float plane and travelled the river by canoe. Specific lakes and ponds were reached by hiking off the river.

The following lakes and ponds were surveyed (appendix B). For convenience in identification, pseudonyms or local nicknames were used for those lakes and ponds not named on the USGS topographic quadrangles:

1. Twelvemile Slough
2. Portage Pond
3. Portage Pond Satellite
4. Loonlet Lakelet
5. Nelson Walker Lake
6. Johnny Walker Lake
7. Pingo Lake
8. Pingo Lake Satellite
9. Big Duckless Lake
10. Little Duckless Lake
11. Lake Omelaktavik
12. Lake Om Satellite
13. Swamparama Lake
14. Tree Squirrel Lake
15. Beaver Lake
16. Scaup Lake
17. Widgeon Lake

We walked slowly around these lakes and ponds while searching for waterfowl and their broods, sometimes stopping to sit quietly while searching the area with binoculars. All waterbirds (including loons and grebes, as well as waterfowl) observed were

identified, and the number of individuals seen was recorded. Determination of sex was sometimes difficult at a distance, especially with birds in eclipse plumage. When broods were observed, time and care was taken to insure that all of the young were seen. Information from each observation was recorded in a field notebook and the locations of each observation were identified by lake name.

We began the survey on 04 August and completed it on 11 August 1992. We were picked up at Lake Matcharak on 12 August 1992.

RESULTS

Brood counts and incidental wildlife observations made during the breeding waterfowl survey are presented below, by lake and pond (see the appended map for the specific locations of each). "M" means male, "F" means female, "y" means young, and "U" means unidentified or uncertain (regarding sex, etc.). Scientific names for each species listed are furnished in Appendix A:

1. Twelvemile Slough

Broods: American wigeon F+5y
greater scaup F+8y

Other Observations: northern pintail 1F
American widgeon 1U

horned grebe 1 adult, 1 dead young
mew gull
common snipe

2. Portage Pond

Broods: greater scaup F+6y, F+5y

Other Observations: northern pintail 1M, 3F
American widgeon 2M, 2F
northern shoveler 1M, 3F
greater scaup 11M, 24F

common loon 1
mew gull
red-necked phalarope

moose sign
wolf tracks
Arctic grayling

3. Portage Pond Satellite

Broods: [none]

Other Observations: northern pintail 1F
American wigeon 1M
greater scaup 2F

4. Loonlet Lakelet

Broods: 1 young loon sp. (widgeon-sized)

Other Observations: northern pintail 1U
 American wigeon 2M
 greater scaup 1F

red-necked phalarope

5. Nelson Walker Lake

Broods: [none]

Other Observations: common loon 1
 Pacific loon 1
 Mew gull (adults and 1 young)
 greater yellowlegs (adults and 5 young)
 common raven

heard wolves howling

6. Johnny Walker Lake

Broods: [none]

Other Observations: Pacific loon 1
 greater yellowlegs

northern pike

7. Pingo Lake

Broods: greater scaup F+7y
 surf scoter F+21y, F+11y, F+7y, F+4y

Other Observations: greater scaup 9M, 13F
 surf scoter 10
 approx. 45 other ducks not positively ID'ed

Pacific loon 1 pair
 red-necked grebe 1
 mew gull
 greater yellowlegs 35+

loon or grebe nest

8. Pingo Lake Satellite

Broods: [none]

Other Observations: surf scoter 2
 upland sandpiper 2

9. Big Duckless Lake

Broods: [none]

Other Observations: Arctic tern

10. Little Duckless Lake

Broods: [none]

Other Observations: [none]

11. Lake Omelaktavik

Broods: surf scoter F+4y, F+5y, F+11y, 1 lone young

Other Observations: northern pintail 2M
 surf scoter 18
 37+ other ducks not positively ID'ed
 upland sandpiper 3+
 rusty blackbird
 white-crowned sparrow
 American tree sparrow
 northern pike

12. Lake Om Satellite

Broods: [none]

Other Observations: northern pintail 1M
 greater scaup 11M, 1F
 red-necked phalarope 14
 greater yellowlegs 12

13. Swamparama Lake

Broods: [none]

Other Observations: greater scaup 110

horned grebe 1
raven 2

14. Tree Squirrel Lake

Broods: [none]

Other Observations: common loon
Arctic tern
mew gull

caribou 18

15. Beaver Lake

Broods: common loon pair+1y

Other Observations: Arctic tern 2
yellowlegs

16. Scaup Lake

Broods: greater scaup F+6y, F+3y, F+8y

Other Observations: greater scaup 8M, 4F

golden eagle 1 adult
northern shrike

caribou 37
Dall sheep 8

17. Widgeon Lake

Broods: [none]

Other Observations: American Wigeon 18M

Pacific loon 1

moose tracks
northern pike?
whitefish
snail shells

Summary data are provided in tables 1 and 2.

Table 1. Summary of brood count data for waterfowl and other waterbirds, upper Noatak River corridor, Gates of the Arctic National Park and Preserve.

	n	brood size		
		range	apparent mean	adjusted mean
American wigeon	1	5-5	5.0	---
greater scaup	7	3-8	6.1	---
surf scoter	7(6)	4-21(-11)	9.0	7.0
loon spp.	2	1-1	1.0	---

One of the scoter broods observed was a "gang brood" containing 21 young. The adjusted mean was computed by excluding this count.

Table 2. Summary of incidental wildlife observations made along the upper Noatak River from Twelvemile Slough to Lake Matcharak, by date, 1992.

	August							
	04	05	06	07	08	09	10	11
MAMMALS								
Arctic ground squirrel				xx				
wolverine					xx			
grizzly bear (tracks)	xx			xx	xx	xx		
red fox (tracks)					xx			
wolves (heard)			xx					
moose						xx		
caribou					xx	xx		
Dall sheep							xx	
BIRDS								
common loon							xx	xx
pacific loon		xx	xx					
red-throated loon		xx		xx				
northern pintail		xx						
red-breasted merganser	xx					xx		
golden eagle								xx
northern harrier						xx	xx	xx
ptarmigan (scat)						xx		
mew gull	xx	xx	xx			xx	xx	
Arctic tern		xx			xx		xx	
semipalmated plover				xx				
greater yellowlegs		xx		xx				
upland sandpiper					xx	xx		
peep sp.						xx		
Say's phoebe			xx					
yellow wagtail		xx						
rusty blackbird				xx	xx			
gray jay		xx						
common raven					xx			
FISH								
Arctic grayling	xx				xx	xx		
Arctic char				xx	xx			
Chum salmon				xx	xx			

DISCUSSION

The basic purpose of this survey was to gain general information on the species and respective numbers of waterfowl using and breeding in the upper Noatak River corridor in Gates of the Arctic National Park and Preserve. Since the number of waterfowl breeding in the area is low, small sample sizes were inevitable. Although this might make rigorous statistical comparisons among subsequent survey years difficult, some suggestion of trends in waterfowl numbers might still be gleaned. It thus seems worthwhile to repeat this survey in the future, especially since it can be combined with other resource management activities.

Appendix A. List of animal species (including scientific names) observed during a waterfowl survey in the upper Noatak River corridor, Gates of the Arctic National Park and Preserve, 1992.

MAMMALS

Arctic ground squirrel
wolf
red fox
grizzly bear
wolverine
moose
caribou
Dall sheep

Spermophilus undulatus
Canis lupus
Vulpes vulpes
Ursus arctos
Gulo gulo
Alces alces
Rangifer tarandus
Ovis dalli

BIRDS

common loon
pacific loon
red-throated loon
red-necked grebe
horned grebe
northern pintail
American wigeon
northern shoveler
greater scaup
surf scoter
red-breasted merganser
northern harrier
golden eagle
willow ptarmigan
semipalmated plover
greater yellowlegs
upland sandpiper
red-necked phalarope
common snipe
peep sp.
mew gull
Arctic tern
Say's phoebe
gray jay
common raven
yellow wagtail
northern shrike
rusty blackbird
American tree sparrow
white-crowned sparrow

Gavia immer
G. pacifica
G. stellata
Podiceps grisegena
P. auritus
Anas acuta
A. americana
A. clypeata
Aythya marila
Melanitta perspicillata
Mergus serrator
Circus cyaneus
Aquila chrysaetos
Lagopus lagopus
Charadrius semipalmatus
Tringa melanoleuca
Bartramia longicauda
Phalaropus lobatus
Gallinago gallinago
Calidris sp.
Larus canus
Sterna paradisaea
Sayornis saya
Perisoreus canadensis
Corvus corax
Motacilla flava
Lanius excubitor
Euphagus carolinus
Spizella arborea
Zonotrichia leucophrys

cont.

Appendix A. (cont.)

FISH

whitefish

Arctic char

Chum salmon

Arctic grayling

northern pike

Coregoninae

Salvelinus alpinusOncorhynchus ketaThymallus arcticusEsox lucius

INVERTEBRATES

freshwater snail

Gastropoda

Appendix B. Maps of study area. The first (fig. 1) provides an overall view of the study area at 1:250,000 scale (USGS topographic quadrangles Ambler River and Survey Pass). The following pages (fig. 2) cover the study area at 1:63,360 scale, starting upriver (east) and working downriver (west), including the following USGS topographic quadrangles: Survey Pass (C-5) and (C-6); Ambler River (C-1) and (D-1).

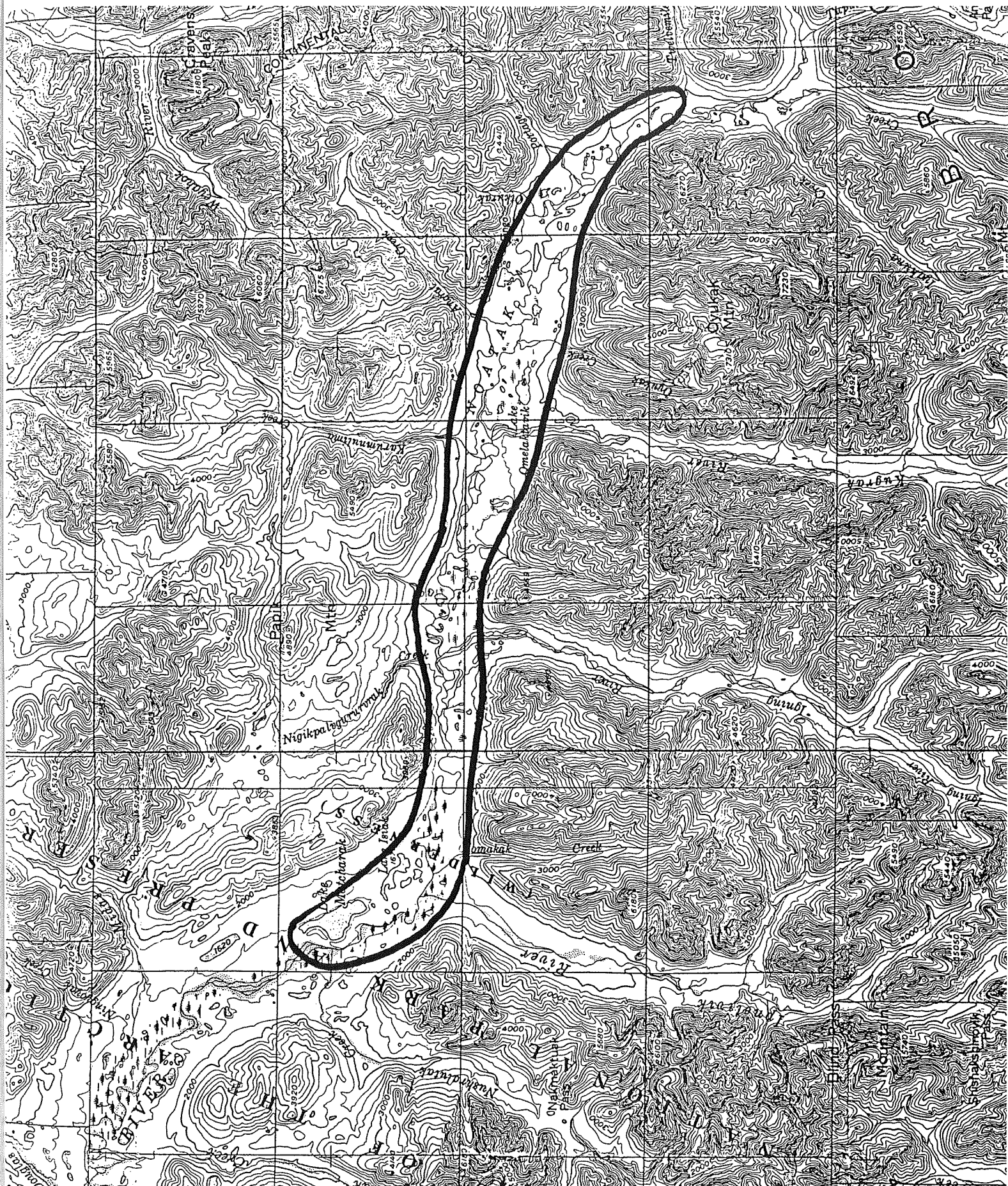


Figure 1. Upper Noatak River, 1:250,000 scale. The study area is indicated by the heavy black outline.

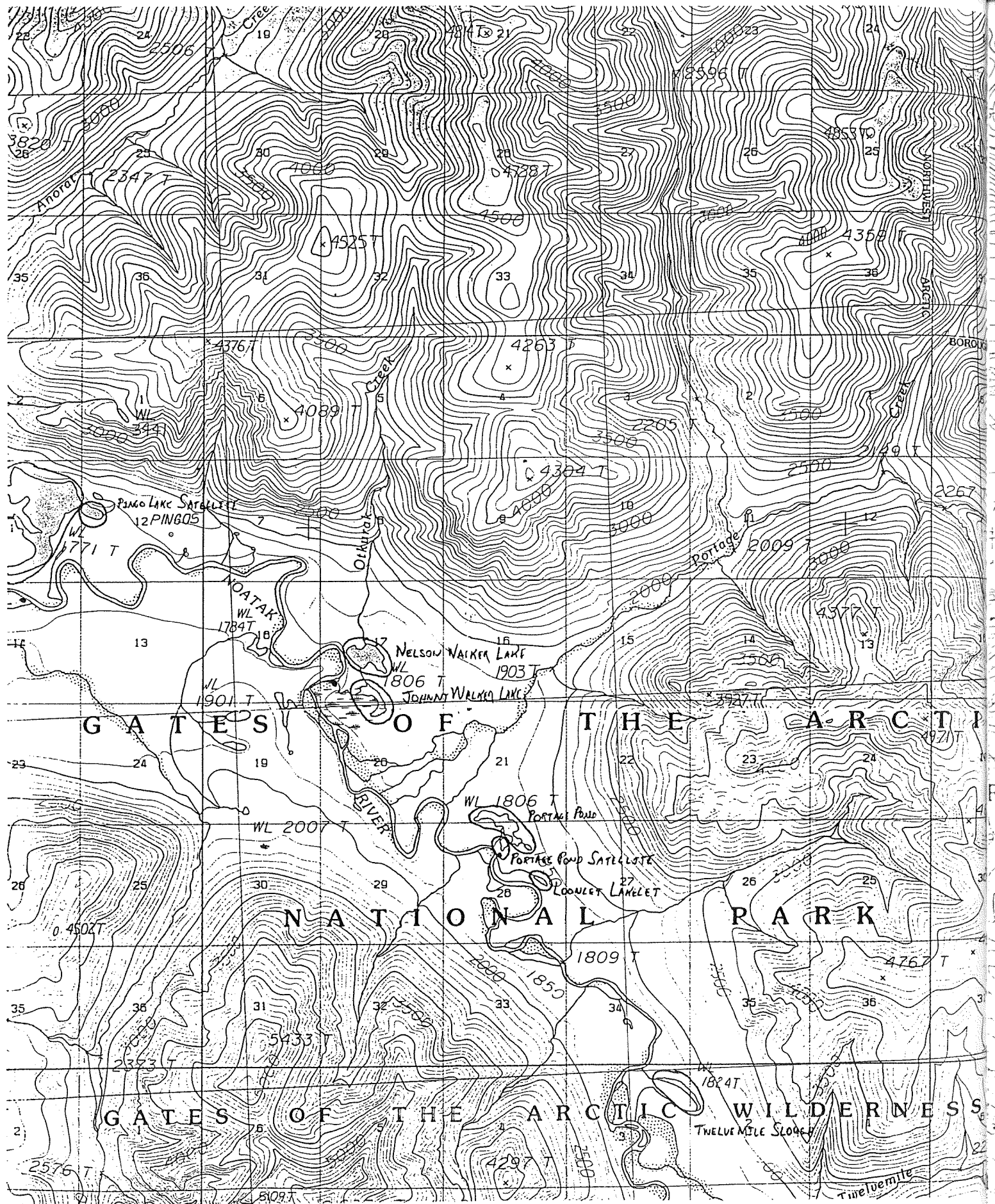


Figure 2. Upper Noatak River, 1:63,360 scale. Lakes surveyed are indicated by black outlines.



Figure 2, cont.

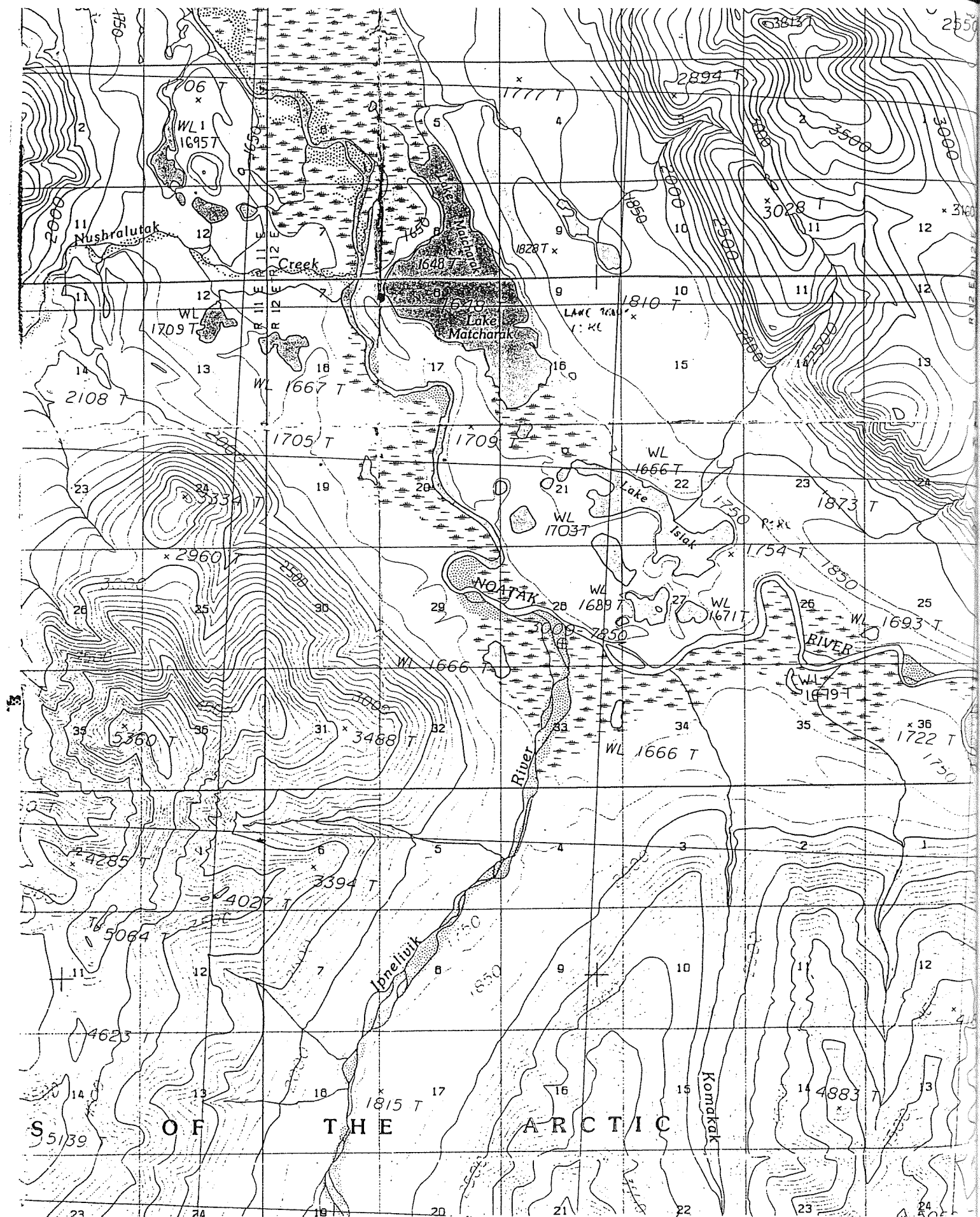


Figure 2, cont.